

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/940,020	08/27/2001	Mikhail Boroditsky	ATT-029PUS	4882
22494	7590	06/30/2004	EXAMINER	
DALY, CROWLEY & MOFFORD, LLP SUITE 101 275 TURNPIKE STREET CANTON, MA 02021-2310			PAYNE, DAVID C	
			ART UNIT	PAPER NUMBER
			2633	

DATE MAILED: 06/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/940,020

Applicant(s)

BORODITSKY ET AL.

Examiner

David C. Payne

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 20-26 is/are rejected.
- 7) ☒ Claim(s) 18 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Double Patenting*

1. Claims 1-17 and 20-26 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 of copending Application No. 09/940,034 (referred to hereinafter as '034). Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant application is drawn to a wavelength stacking control admission system that reserves time slots on an optical channel using tunable receivers. The '034 application is drawn to a wavelength stacking system time-slot allocation system as well. While the '034 application does not claim tunable receivers it would have been obvious to one of ordinary skill in the art at the time of invention to use tunable receivers to adjust to the various predetermined wavelengths of the system rather than using fixed receivers for each wavelength.

— This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2633

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Tomioka US 5,452,115 A (Tomioka).

Re claim 1 Tomioka disclosed,

A method for controlling access to an optical network, comprising: reserving time slots available within a frame via a control channel (e.g., col./line: 10/30-45); allocating the reserved times slots into a number of cycles, wherein a number of time slots in each cycle equals to a predetermined number of wavelengths (Figure 3); stacking a composite packet having multiple wavelengths; transmitting the composite packets onto the network; receiving composite packets from the network; and unstacking the received composite packets (e.g., col./line: 16/7-22).

Re claim 2 Tomioka disclosed,

further including stacking the composite packets such that the composite packets have the predetermined number of wavelengths (Figure 7A).

Re claims 9 Tomioka disclosed,

further including bandwidth reservation using credits (e.g., col./line: 13/15-35).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2633

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3-8, and 10-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomioka US 5,452,115 A (Tomioka).

Re claims 3, 4 and 16, Tomioka does not disclose

further including reserving time slots in a current reservation cycle to transmit the composite packets to a selected destination where the selected destination is not reserved in the current reservation cycle. However, it would have been obvious to one of ordinary skill in the art at the time of invention to reserve time-slots as claimed as this is the necessary step to adding a reservation cycle when one does not exist, i.e., it is obvious that a new reservation must be set up at some point for the first time in order to begin the reservation request.

Re claims 5-8, Tomioka does not disclose

the exact timing relationships to transmission and reception of packets as claimed. Tomioka does disclose timing (e.g., col./line: 13/55-67). However, it would have been obvious to one of ordinary skill in the art at the time of invention to adjust transmission and reception of packets some number of cycles in the future to ensure first that the time slot is available for transmission and second to ensure that a received packet is the correct one that is being awaited.

Re claims 13 Tomioka disclosed,

further including bandwidth reservation using credits (e.g., col./line: 13/15-35).

Re claim 10, 11, 14 and 15, Tomioka does not disclose

further including renewing credits once per frame of a negotiated length and ending a frame when each queue is empty and/or out of credits. However, it would have been obvious to one

Art Unit: 2633

of ordinary skill in the art at the time of invention to negotiate the end of frame or end a frame early so that a packet would be allowed to complete the end of transmission or no less trample on the time slot of another transmission, i.e., behave fairly.

Re claim 12, Tomioka disclosed

A method of controlling access to an optical network comprising: reserving wavelengths available within a next time slot of a frame via a control channel (e.g., col./line: 10/30-45); and receiving a packet by tuning a tunable receiver to its wavelength (e.g., col./line: 31/45-51).

Tomioka does not disclose

transmitting a packet onto the network by using a tunable laser and a coupler.

However, it would have been obvious to one of ordinary skill in the art at the time of invention to use tunable lasers from transmitting various wavelengths since fewer parts reduce costs and present less failure problems.

Re claim 17, Tomioka disclosed

A method for controlling admission of new bandwidth reservation in an WDM optical ring network, comprising: receiving a bandwidth request for a node source-destination pair (e.g., col./line: 3/15-35); determining whether there is sufficient network capacity for the bandwidth request (e.g., col./line: 11/25-45);

Tomioka does not disclose updating the number of credits per frame to be assigned to input-output pairs whenever the bandwidth is requested and/or previously assigned bandwidth is released; renewing credits by loading queue counters to specified numbers at the beginning of each frame; and reserving time slots available within a frame via a control channel if the queue counters are positive, and decrementing the corresponding queue counter whenever the reservation is made. However, it would have been obvious to one of ordinary skill in the art at the time of invention to use such a credit system in order to ensure the bandwidth is not exceeded on the medium.

Art Unit: 2633

6. Claims 20-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomioka US 5,452,115 A (Tomioka) in view of Fatehi et al. US 6,535,313 B1 (Fatehi).

Re claims 20, 21 and 24, Tomioka disclosed

An optical network, comprising: an admission controller for determining whether the network has capacity to accept a new bandwidth request (e.g., col./line: 11/25-45);

Tomioka does not disclose and an add/drop node for transmitting and receiving composite packets having multiple wavelengths stacked in time. Fatehi disclosed a dynamically assignable add/drop bandwidth system (Figure 8). It would have been obvious to one of ordinary skill in the art at the time of invention to add and drop wavelengths from the system so that wavelengths can be used pair-wise or re-used in the network.

Re claims 22 and 23, Tomioka disclosed

stacking packets of varying wavelengths (Figure 3) to form a composite transmit data packet; buffering the transmit data packet in a transmit switch (Bx of Figure 35); transmitting the transmit data packet onto the ring network via an optical switch; receiving a receive data packet via the optical switch; buffering the receive data packet in a receive switch (Bx of Figure 35); and unstacking the receive data packet (e.g., col./line: 16/7-22).

Re claim 25, Tomioka does not disclose

assigning a number of credits within a frame corresponding to accepted bandwidth requests.

However, it would have been obvious to one of ordinary skill in the art at the time of



Art Unit: 2633

invention to assigning a number of credits as such so that a packet would be allowed to complete the end of transmission or no less trample on the time slot of another transmission, i.e., behave fairly.

Re claim 26, Tomioka does not disclose

further including reserving time slots in a current reservation cycle to transmit the composite packets to a selected destination where the selected destination is not reserved in the current reservation cycle. However, it would have been obvious to one of ordinary skill in the art at the time of invention to reserve time-slots as claimed as this is the necessary step to adding a reservation cycle when one does not exists, i.e., it is obvious that a new reservation must be set up at some point for the first time in order to begin the reservation request.

---

***Allowable Subject Matter***

7. Claims 18 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sabry et al. US 5,760,935 (Sabry) disclosed inter-network communication with

Art Unit: 2633

time and wavelengths. Nakata US 5500857A (Nakata) disclosed inter-nodal communication with WDM and time-slots. Van As et al. US 5,764,392 A (Van As) disclosed an access control system for multi-channel transmission rings. Mossberg et al. US 6,292,282 B1 (Mossberg) disclosed a time-wavelength multiple access system. Lahat et al. US 6,466,343 B1 (Lahat) disclosed assigning wavelengths in a WDM system. Fatehi et al. US 6,694,100 B1 (Fatehi) disclosed a space TDM multiple access optical transmission system. Ofek US 6,674,754 B1 (Ofek) disclosed a combined WDM/TDM system. Barry et al. US 6,538,777 B1 (Barry) disclosed allocating wavelengths to a path. Wright et al. US 6,411,410 B1 (Wright) disclosed a TDM signal over a WDM ONU network.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (703) 306-0004. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703) 305-4729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 09/940,020

Page 9

Art Unit: 2633

Dcp



JASON CHAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600